

REMARKS/ARGUMENTS

Paragraph [0033] has been amended to delete matter pertaining to canceled claims 6-8.

Claims 1-8 are pending in the present application and each of the claims presently stand rejected. Claims 1-4 have been amended. Claim 5 ultimately depends from amended claim 1 and is original. Claims 6-8 have been canceled. Claims 9 and 10 are new. No new matter is introduced.

Applicants respectfully request reconsideration and allowance of the present claims in view of the foregoing amendments and following remarks.

1. Claim rejections under 35 U.S.C. 112, second paragraph.

Claims 1-6 stand rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter, which Applicants regard as Applicants' invention. Claims 1-4 of the present invention have been amended to clarify the relationships between "the body 74" and the other elements of the invention. Applicants respectfully request reconsideration based on the foregoing amendments and following remarks.

2. Claim rejections under 35 U.S.C. 102(b).

Claims 1-3, 7,8 stand rejected under 35 U.S.C. 102(b) as being anticipated by Dudden in U.S. Patent No. 3,995,134.

Present independent claim 1 is amended to distinguish Applicants' invention over Dudden and Applicants respectfully submit that each of claims (1-3) are patentably distinguished over the art taught by Dudden. The Examiner's rejections under 35 U.S.C. 102(b) are hereinafter traversed and reconsideration is respectfully requested for the following reasons.

Dudden teaches an apparatus for drilling transverse holes comprising a stainless steel tube 16 (Col. 1, line 19 and Col. 2, line 17), which is covered by insulation 17 (Col. 1, line 28 and Col. 2, line 18). Dudden also claims in part, "...a tube formed of an electrically conductive material... insulating means interposed between said tube and said workpiece." (Claim 2). Dudden further teaches the rationale for selecting a stainless steel tube material and the purpose of spacer 19, "[d]uring the production process the stainless steel tube 16 will assume a potential substantially the same as that of the electrode and there will therefore be *substantially no tendency* for discharge to occur between the electrode and the tube. The end 34 of the stainless tube is maintained by the spacer 19, sufficiently far away from the side 35 of the passage 13 to *substantially prevent* discharge therebetween." (Col. 4, lines 8-14).

Applicants' present invention teaches an apparatus made of an electrically nonconductive material. In part, present claim 1 reads, "An apparatus...comprising: a body, wherein said body is made of an electrically nonconductive material...." Support for claim 1 is found in paragraph [0028] starting on page 8, "[t]he body 74 of the hole-drilling guide 70 is preferable made of an electrically insulating material...." Applicants' present invention eliminates the need for a separate insulating means, which is taught by Dudden. Since Applicants' apparatus is made entirely of an electrically insulating material, there is *no possibility* for discharge to occur between the electrode and the body, or between the body and a surface of the workpiece. Applicants point out that Dudden acknowledges that discharge is only substantially prevented and not completely eliminated as it is with Applicants' invention.

Amended dependent claims 2 and 3 are allowable over Dudden by virtue of their dependency from amended claim 1 of the present invention.

Accordingly, amended claims 1-3 of the present invention are allowable over Dudden.

3. Claim rejections under 35 U.S.C. 103(a).

The Examiner's rejections under 35 U.S.C. 103(a) are hereinafter traversed and reconsideration is respectfully requested for the following reasons.

Examiner's presumption is correct that 35 U.S.C. 103(c) is not applicable, as the subject matter and claimed invention were subject to an obligation of assignment to the same person at the time Applicant's various claims were made. In response to Office's notice to file missing parts dated 04/02/2004, Applicant's provided executed assignments to United Technologies Corporation in a response dated 4/23/2004.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dudden in U.S. Patent No. 3,995,134 in view of Matsumoto et al. in U.S. Patent No. 5,687,205.

At the time the invention was made, neither of the references alone or together would have suggested or motivated Applicants to combine or modify the teachings of Dudden and Matsumoto et al. Dudden teaches, "[t]he workpiece 10 is itself mounted on a table 30 which may be indexed along to relatively spaced successive holes 12." (Col. 3, lines 9-11 and Fig 4). According to Dudden's teachings, the apparatus 15 must be positioned in relation to workpiece 10 by a table 30 in order to accurately locate holes 12. It is table 30, which locates workpiece 10 in relation to apparatus 15 for drilling holes. Matsumoto et al. teaches, "...support base 100 also includes *positioning dowel holes* 122 disposed on opposite sides of the aperture 108. The positioning dowel holes 122 are configured to receive *positioning dowels* [204] fixed to the drilling tool 200 and the EDM tool 300..." (Col. 6, lines 28-32). The locating feature taught by Matsumoto et al. functions by engaging a projection in the EDM tool 300 with a companion depression in the support base 100.

Applicant's present invention, as recited in part in amended claim 4, provides, "...a locator on a face for contacting the surface and accurately positioning said exit aperture in relation to the obstructed area of the surface." The locator 86 of Applicant's present invention does not engage, mate or mesh with a complimentary locator as do the dowels 204 and dowel holes 122 and therefore, differs from the teachings of Matsumoto et al. There would be no desire or reasonable expectation of success for Applicants to have combined, modified or adapted the teachings of Matsumoto et al. with the teachings of Dudden, since a complimentary locator affixed to work piece 32 for engaging, mating or meshing locator 86 is not feasible. The work piece 32 would not function as intended if it were to be modified to include a complimentary locator for engaging locator 86 of Applicant's apparatus 70.

Applicants respectfully point out that it is not apparent, from the Examiner's action, why claim 5 currently stands rejected as indicated in paragraph 6. Applicant's Agent telephoned the Examiner on 18-August-2004 for further clarification and the Examiner indicated the last sentence of paragraph 6 of action stands as written, with the addition of a period at the end of the sentence. Applicants respectfully point out that the Examiner has not explained why it would have been obvious for Applicants to combine or modify the reference teachings, supporting the rejection of claim 5 under 35 U.S.C. 103(a).

Regarding new claim 9, Applicants wish to enter Attachment A, US Patent 5,641,448 to Yeung, et al., as an example of known art in the field of solid freeform fabrication. Applicants presently teach, "[t]he body 74 of the hole-drilling guide 70 is preferably made of an electrically insulating material using solid freeform fabrication..." (paragraph [0028]). Applicants point out a widely-used method of freeform fabrication is stereolithography (SLA), which uses a laser beam to selectively solidify a photocurable polymer (Col. 1, Lines 26-36).

Appl. No 10/743,517
Amdt. dated September 21, 2004
Reply to office action of June 22, 2004

In view of the foregoing, Applicant's respectfully request withdrawal of the rejections against claims 1-5 and allowance thereof. The Examiner is cordially invited to telephone Applicants' representative if it appears a telephone discussion would help resolve any outstanding matters or place the application in even better condition for allowance. Please charge any required fees to the Deposit Account of record.

Respectfully submitted,

By 

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